



ITEQ

2022 Analyst Day

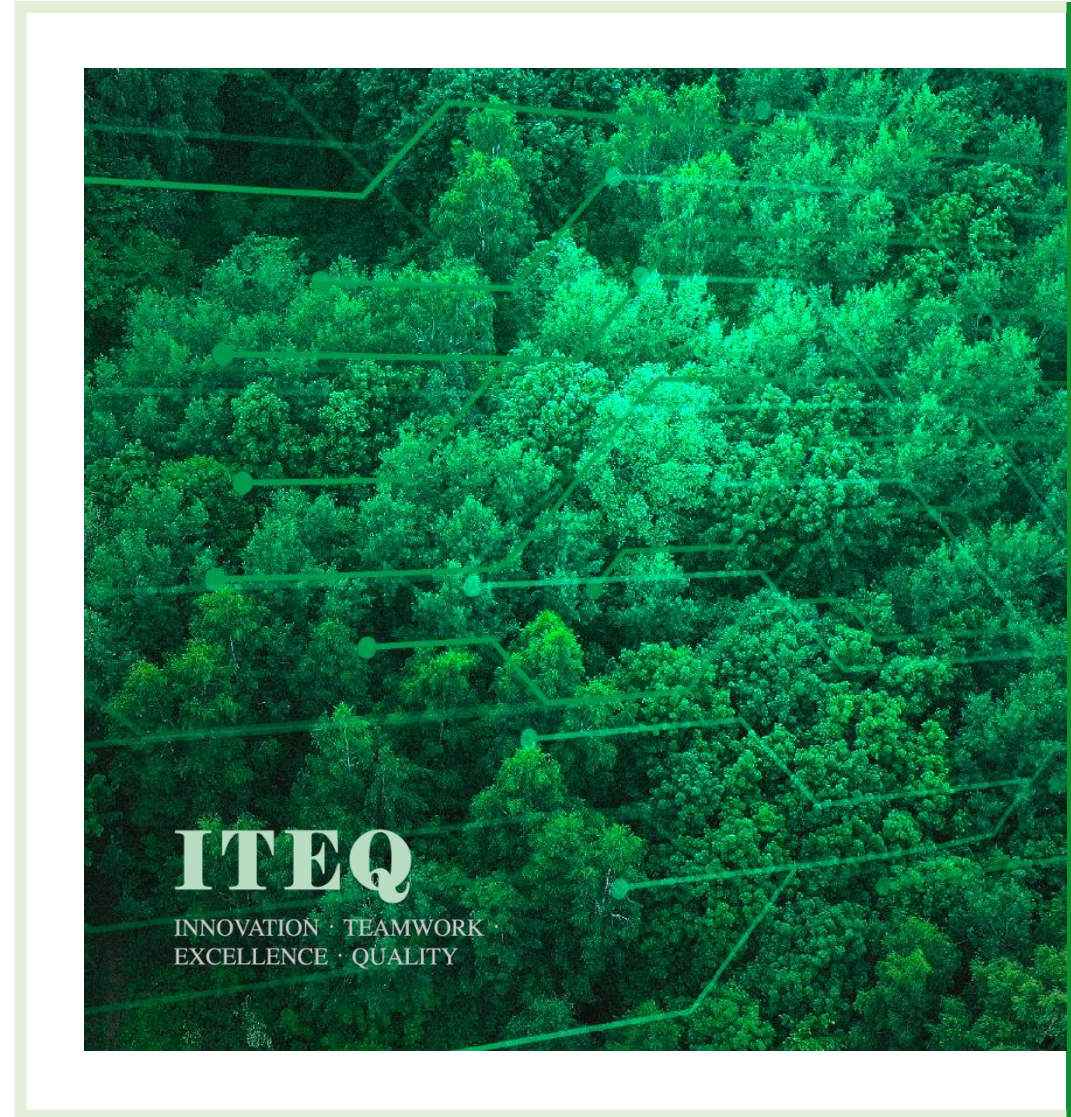
ITEQ

INNOVATION. TEAMWORK. EXCELLENCE. QUALITY

September 2022

# Disclaimer Statement

- This presentation and release contain “forward-looking statements” which may include projections of future results of operations, financial condition or business prospects based on our own information and other sources.
- Our actual results of operations, financial condition or business prospects may differ from those expressed or implied in these forward-looking statements for a variety of reasons, including but not limited to market demand, price fluctuations, competition, international economic conditions, supply chain issues, exchange rate fluctuations and other risks and factors beyond our control.
- The forward-looking statements in this release reflect the current belief of ITEQ as of the date of this release. ITEQ undertakes no obligation to update these forward-looking statements for events or circumstances that occur subsequent to such date.





## Company Overview



**Establishment**  
April 10<sup>th</sup>, 1997



**Headquarters**  
HsinChu, Taiwan



**Capital**  
NT\$3,830 million



**Employees**  
~4,000



**Chairman**  
Dennis Chen



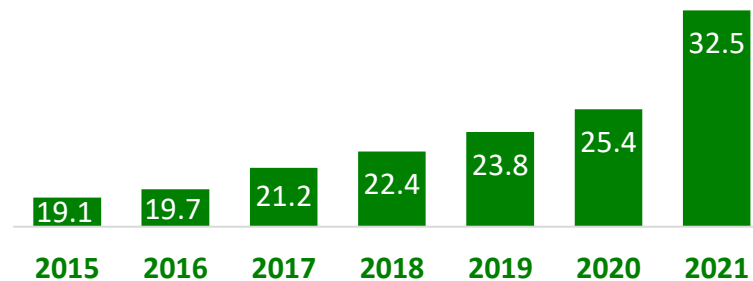
**CEO**  
Audrey Tsai



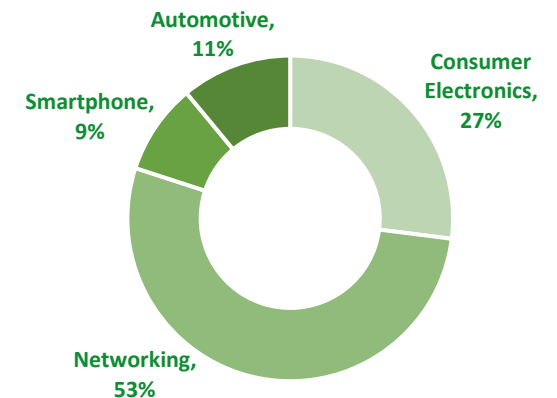
### Main Products

Copper Clad Laminate (CCL) & Prepreg (PP) | Masslam service | Flexible CCL

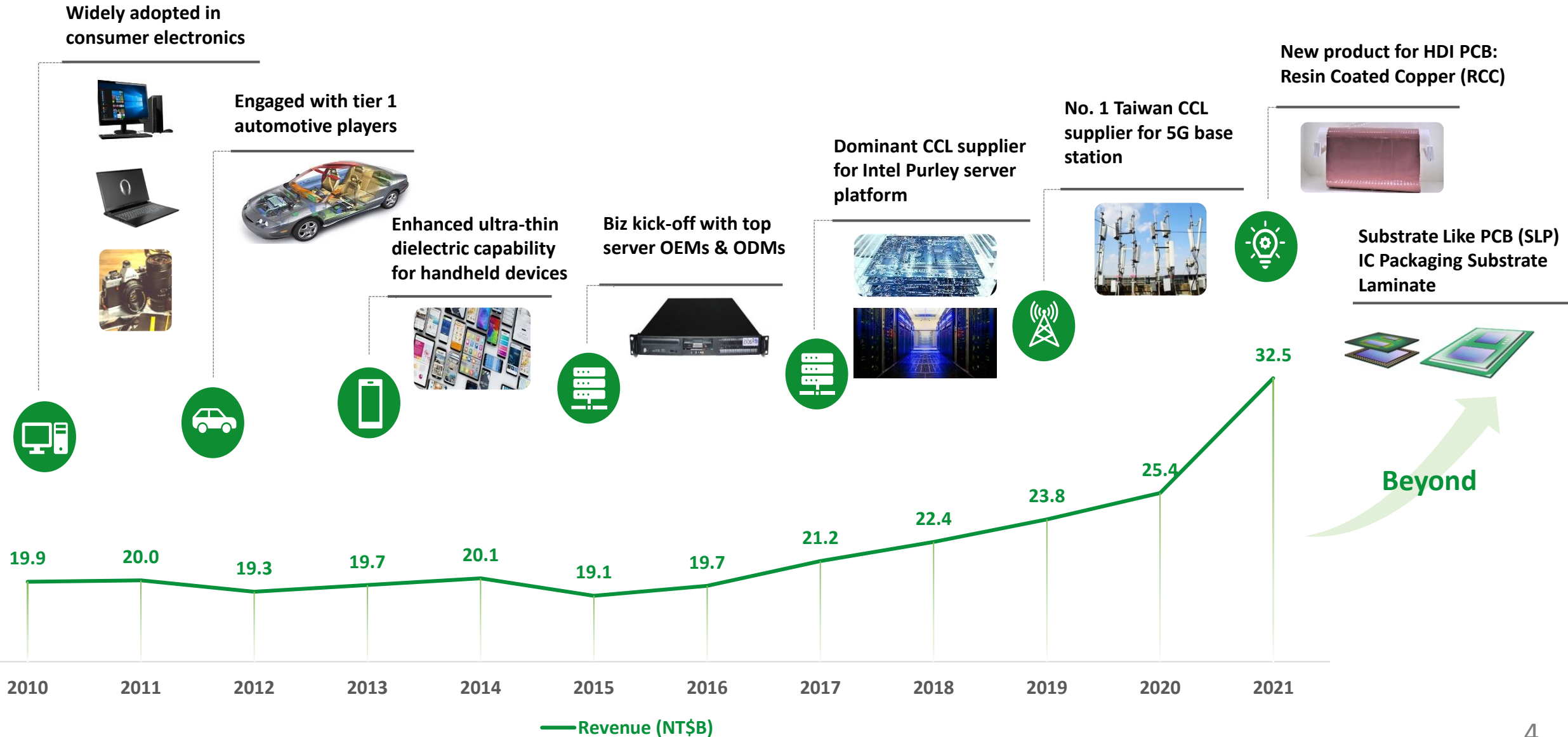
### Revenue (NT\$ billion)



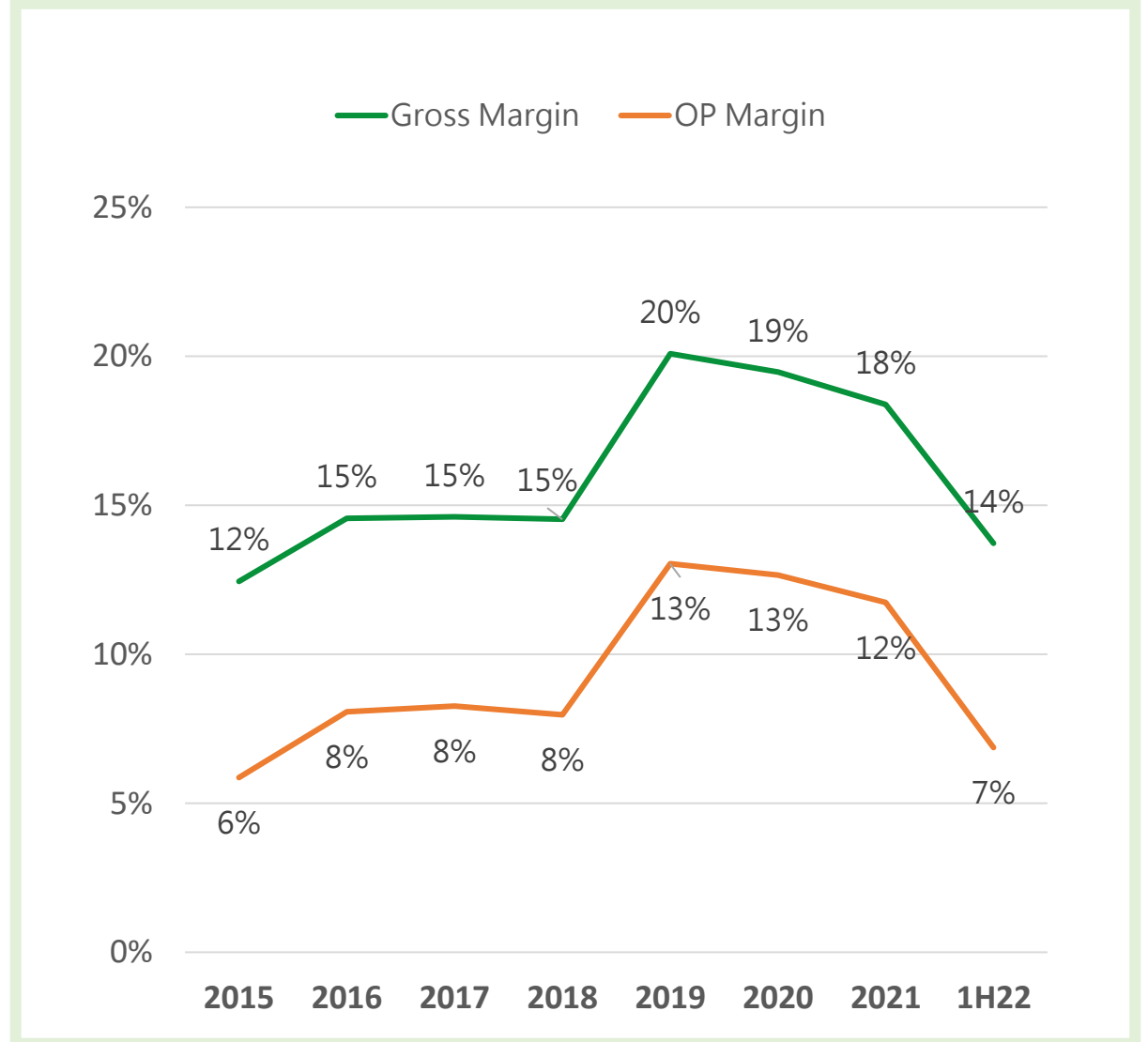
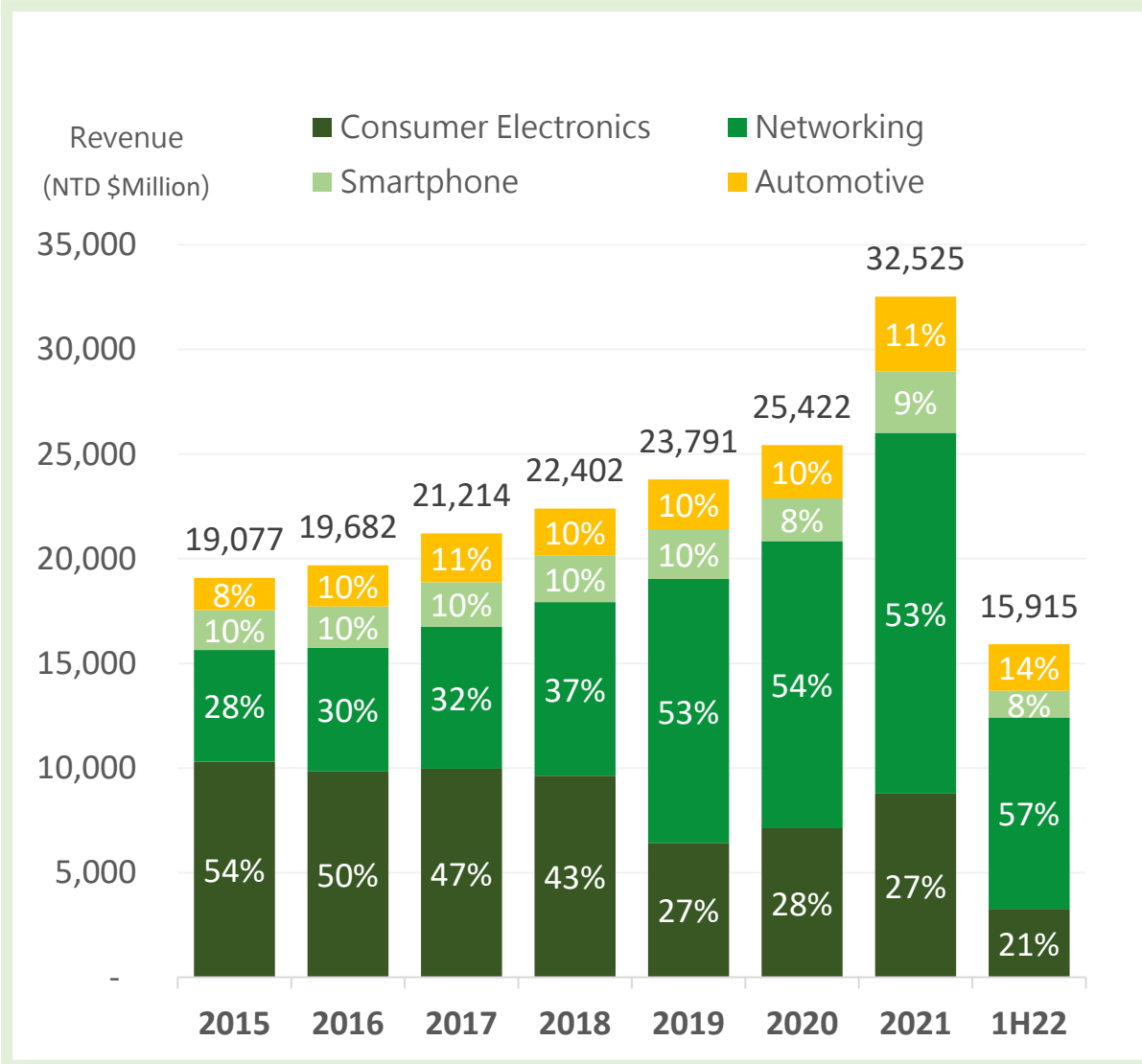
### Revenue by Application (FY21)



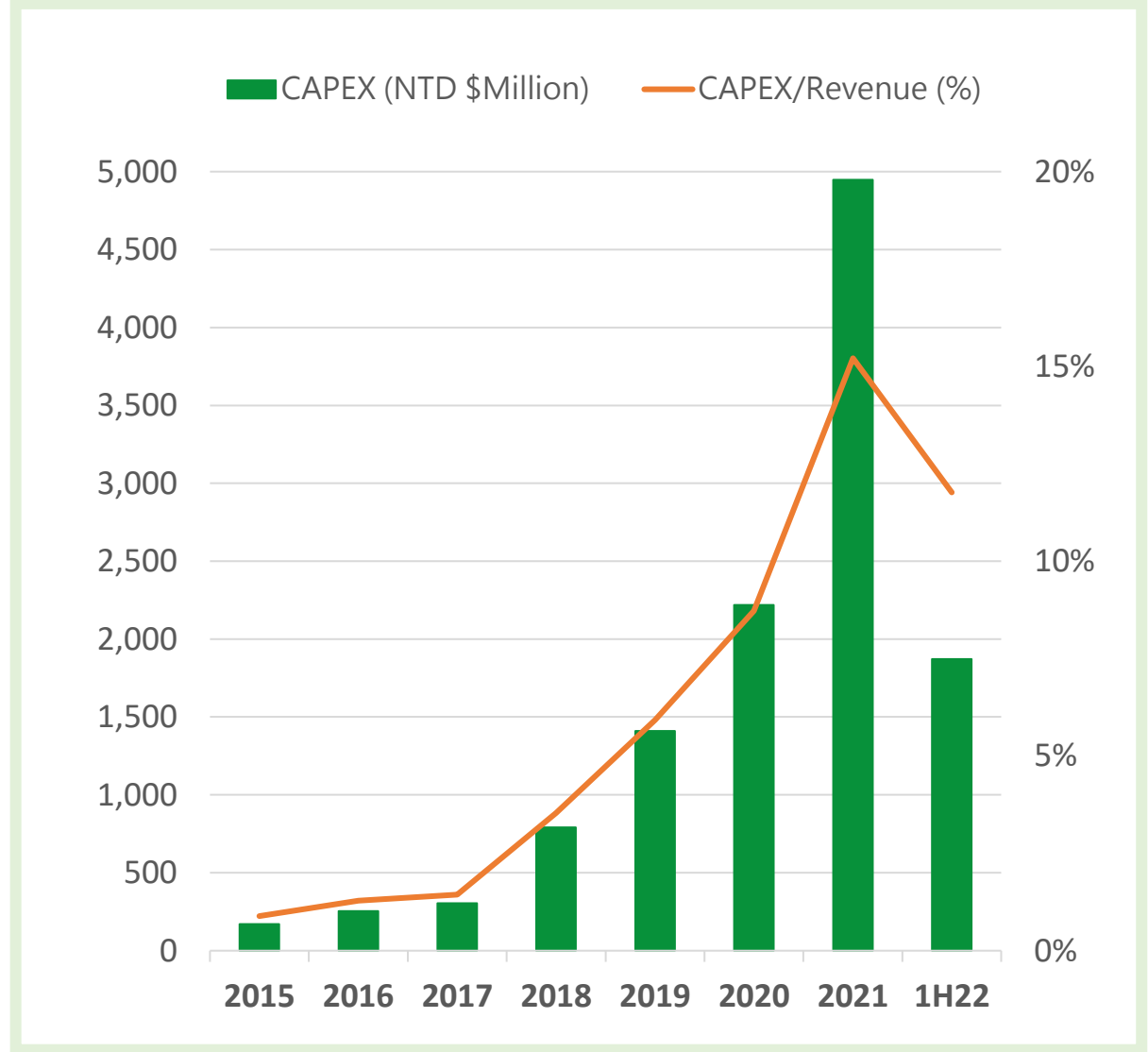
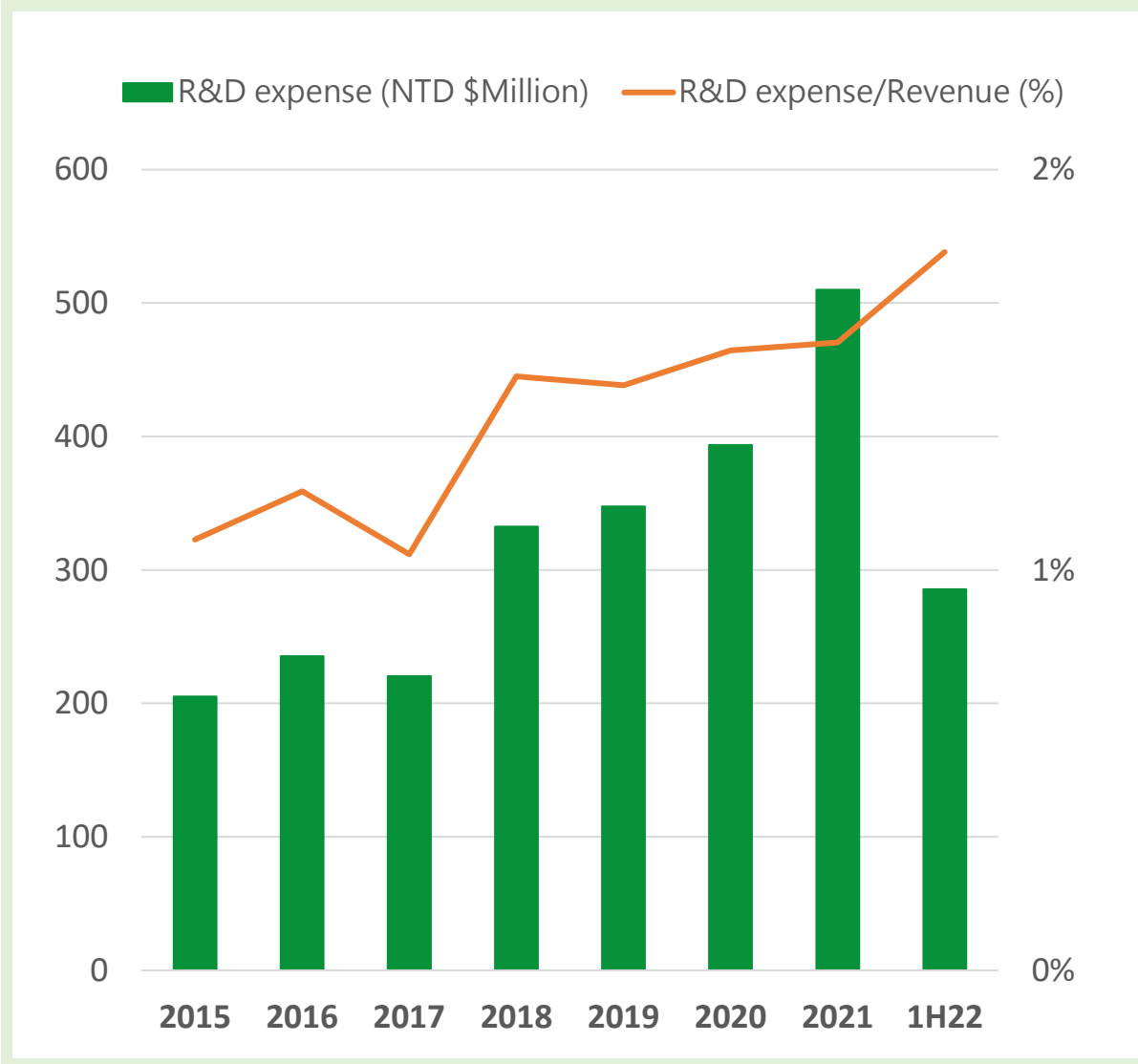
# Revenue Growth Driven by Technology Innovation



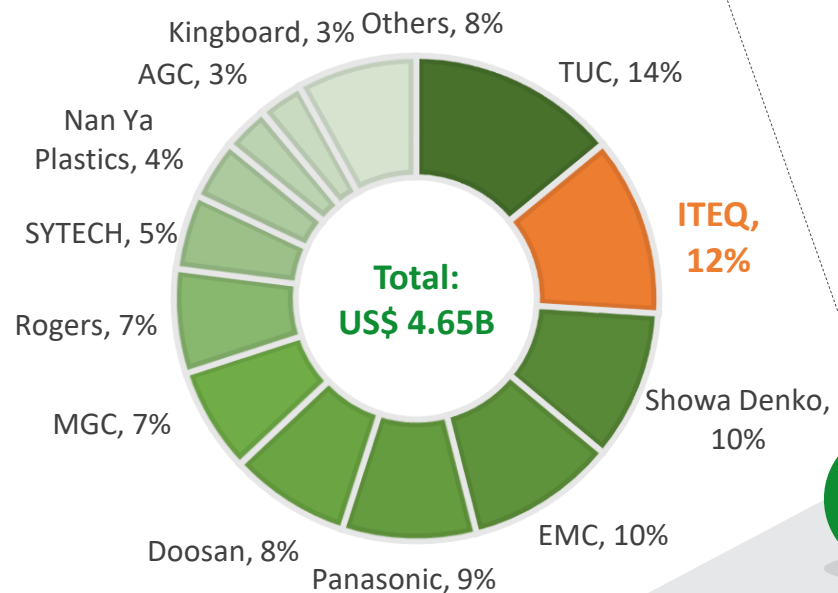
# Improve Profitability through Optimized Product Mix



# R&D and Capex to Pursuit Sustainable Growth



## 2021 Worldwide Specialty Laminate\* Market Share



\*Specialty Laminate includes: High speed, package substrate, and RF  
Source: Prismark Report, 2022/05

**No.1** High Speed Materials & Specialty Laminate Supplier in the World by the End of **2025**

## Growth Momentum

- Favorable Industry Trends
- Continuous High-end Products Development
- Strategic Layout of BT Substrate Materials
- Production Gearing Up

## Sustainlytics ESG Rating

(100-0, 0 being the best)

**16.7 (Low Risk)**

## Board Structure

Independent Directors



Female Directors



## Information Security

- Established "Cybersecurity & Data Privacy Committee"
- Reinforce ISMS (system, procedure, software/hardware upgrade, employee awareness) to ensure corporate & customer information asset security

## Supply Chain Management & Customer Service

- **Supplier Risk Management:** 58 vendors participated in the RBA audit and evaluation, with a **100%** completion rate in 2021
- **Customer Survey: Level A** rating according to the 2021 customer satisfaction survey

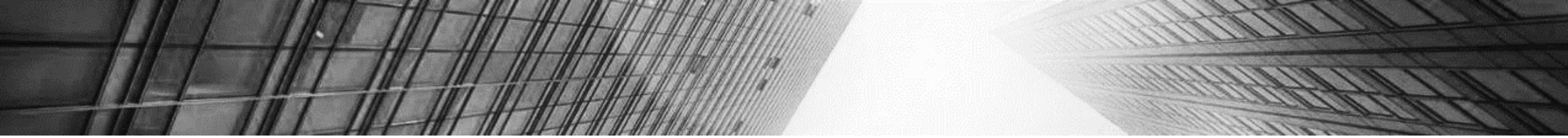
## Environmental Management

- Heat recovery by RTO in TW plant's carbon reduction measures and air pollution elimination rate **>96%**
- Implemented ISO 50001 Energy Management System in TW plant
- **>99%** Wastewater recovery rate in TW plant

## Occupational Health & Safety

- Qualification of Occupational Health and Safety Management System of ISO 45001.
- Total of 132 members of the Occupational Health and Safety Committee; with 75 representatives of labor workers, higher than the ratio of regulation requirement.





# Industry Trend & Growth Momentum

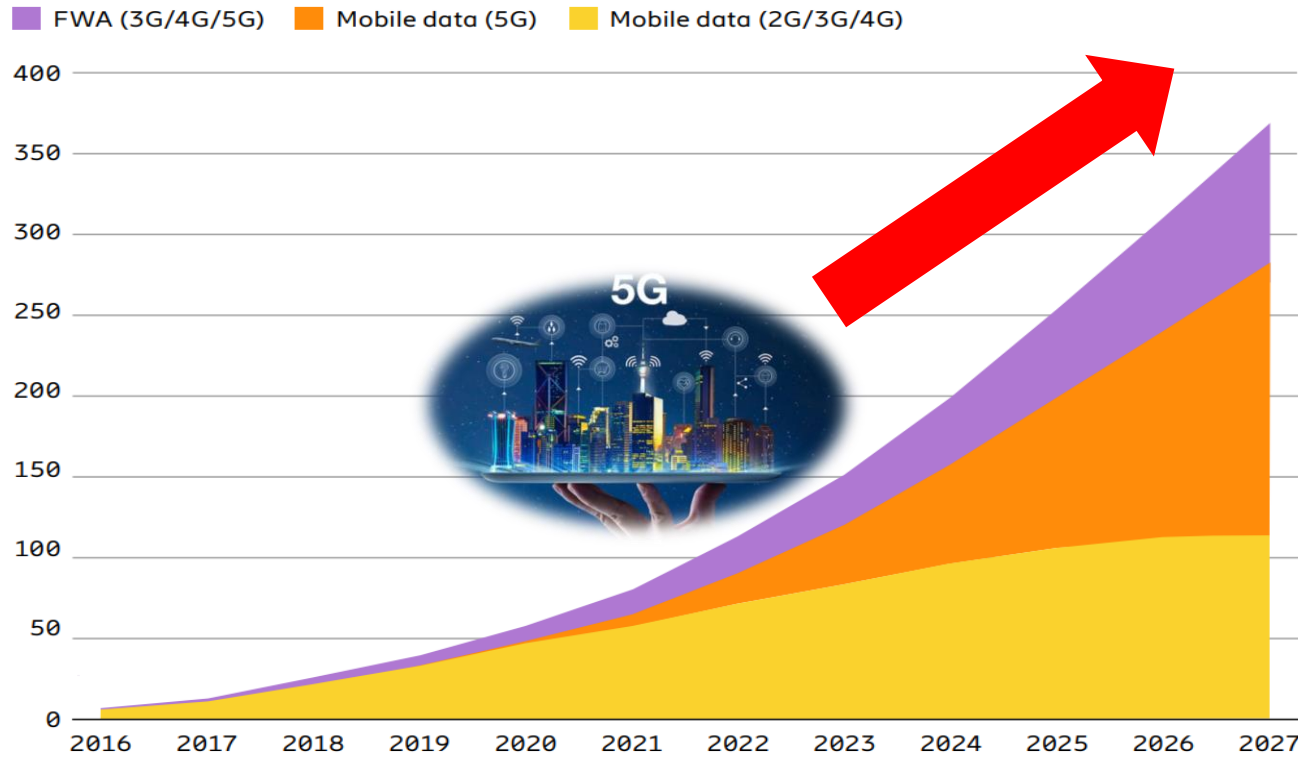
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## Global Mobile Network Data Traffic (EB per month)



Source : Ericsson Mobility Report, 2022/06

### ● The Expansion of Global Mobile Network Data Traffic Continues on the Rise

- Telecommunications equipment & datacenter
  - Base station, ground satellite transceiver station
  - Core (traditional / cloud datacenter)
  - Edge computing (Enterprise enhanced infrastructure, such as data center & internal/external servers, signal transmission stations, etc.)
- End user products (computers, smartphones, IoT devices)
- IoT related applications (Smart Home & Telemedicine)
- Internet of Vehicles (ADAS & Self-Driving)
- Big Data Analysis & AI & High Performance Computing
- Cloud Computing and Cloud Storage
- Virtual Reality (VR) and Augmented Reality (AR)

- 5G mobile data traffic share to reach 60% in 2027.
- The expansion of global mobile network data traffic has driven network service operators, telecommunications companies and IoT & IoV manufacturers to expand/upgrade product specifications to meet the needs of low latency, high reliability and high-speed computing processing

# Well Diversified High-Speed Materials for HPC/Datacenter

High Speed Application

Super Ultra Low-loss

IT-999G

R&D

▲ Next

IT-998G

IT-998 / IT-998SE

IT-998SE : Low-Dk glass  
IT-998 : Low-Dk 2 glass

- 800G Ethernet
- 112Gbps

0.001

Ultra Low-loss 2  
(with Low Dk glass)

IT-988GSE

Intel EGS / BHS  
AMD Genoa / Turin

IT-968GSE

IT-968SE

- PCIe 5.0
- 200G Ethernet
- 400G Ethernet
- 56Gbps

0.002

0.003

Ultra Low-loss 1

IT-988G

Intel EGS / BHS  
AMD Genoa / Turin

IT-968G

IT-968

- PCIe 5.0
- 100G Ethernet
- 25~32Gbps

0.004

0.005

Low-loss Advance

IT-150DA

Intel Whitley  
AMD Rome / Milan

IT-958G

IT-170GRA2

- PCIe 4.0
- 40G Ethernet
- 10~20Gbps

0.006

0.007

Low-loss

IT-170GRA1

Intel Purley  
AMD Naples

- PCIe 3.0

0.009

Mid-loss

Loss Level

Halogen Free

Halogenated

Platform

Application

Df @10GHz (RC 50%)

# Datacenter Server Platform Upgrade

|       |              |          |              |          |                 |                |                |
|-------|--------------|----------|--------------|----------|-----------------|----------------|----------------|
| Intel | Platform     | Purley   |              | Whitley  | Eagle Stream    |                | Birch Stream   |
|       | CPU          | Skylake  | Cascade Lake | Ice lake | Sapphire Rapids | Emerald Rapids | Granite Rapids |
|       | Nano Process | 14 nm    | 14 nm+       | 10 nm    | Intel 7         | Intel 7        | Intel 3        |
|       | PCIe Gen     | PCIe 3.0 | PCIe 3.0     | PCIe 4.0 | PCIe 5.0        | PCIe 5.0       | TBA            |
|       | MP Time      | 2017 Q3  | 2019 Q3      | 2021 Q1  | 2023 H1         | 2023           | 2024           |
|       | CCL Material | Mid Loss | Mid Loss     | Low Loss | Very Low Loss   | Very Low Loss  | TBD            |
|       | Layer count  | 8 to 12  | 8 to 12      | 12 to 16 | 16 to 20        | 16 to 20       | TBD            |



|     |              |                          |             |             |               |               |             |
|-----|--------------|--------------------------|-------------|-------------|---------------|---------------|-------------|
| AMD | Architecture | Zen                      | Zen2        | Zen3        | Zen4          |               | Zen5        |
|     | CPU          | Naples                   | Rome        | Milan       | Genoa         | Bergamo       | Turin       |
|     | Nano Process | 14 nm (Global Foundries) | 7 nm (TSMC) | 7 nm (TSMC) | 5 nm (TSMC)   | 5 nm (TSMC)   | 3 nm (TSMC) |
|     | PCIe Gen     | PCIe 3.0                 | PCIe 4.0    | PCIe 4.0    | PCIe 5.0      | PCIe 5.0      | PCIe 5.0    |
|     | MP Time      | 2017 Q3                  | 2019 Q3     | 2020 Q4     | 2022 Q4       | 2023          | 2024        |
|     | CCL Material | Mid Loss                 | Low Loss    | Low Loss    | Very Low Loss | Very Low Loss | TBD         |
|     | Layer count  | 8 to 12                  | 12 to 16    | 12 to 16    | 16 to 20      | 16 to 20      | TBD         |

## Datacenter Equipment Cyclical Upgrade to Drive the Following;

- Corresponding CCL material upgrade
- Increase consumption and layer counts for CCL

## Green Power/EV



- Energy Conservation
- Power Charging
- High Current & Voltage
- Heavy Cu

High Tg material

## Internet of Vehicle

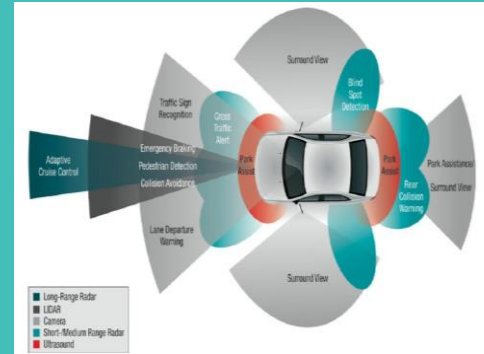


- Infotainment
- Networking

HDI

High Speed Material

## Active Safety

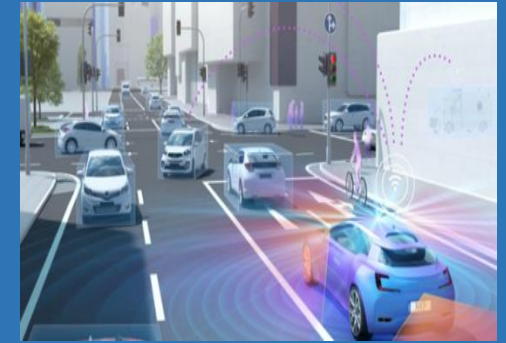


- Active Safety System
- ADAS
- Radar
- Antenna Module

High Speed Material

High Frequency Material

## Autonomous Driving



- HPC
- Graphic Processing
- Automated Driving Control Module

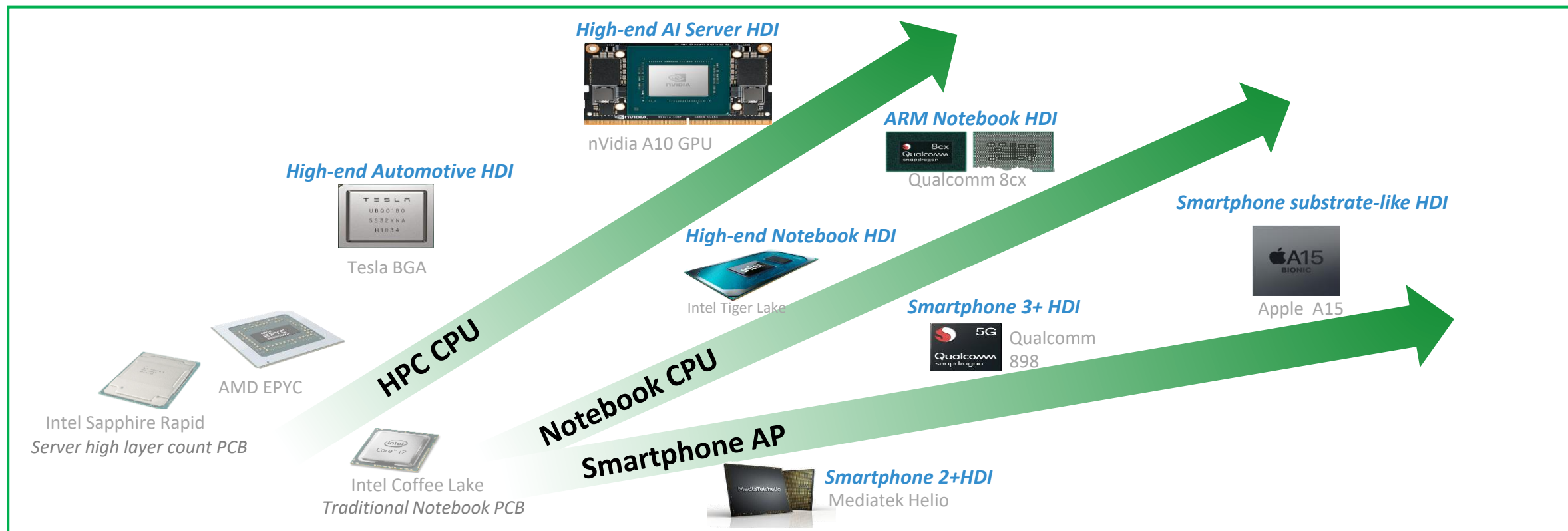
HDI

High Speed Material

- EV, IoV and Active Safety to boost demand for high performance automotive CCL
- The PCB usage for EV is 3 folds of conventional gasoline vehicles
- With the accelerating EV proliferation, global EV penetration rate is expected to reach 21% and 45% in 2025 and 2030, respectively.



- The organic growth of transistor numbers in main chip and miniature of CPU/AP, coupled with advanced packaging development while maintaining the same size of the end products, will lead to HDI PCB uptrend inevitably



- The evolution of chips will drive the growth of HDI PCB.
- Though HDI demand mainly came from smartphone; but AI servers, high-end NB and NEV will also continue to drive the future demand of HDI.

# New Product : Resin Coated Copper (RCC)

## Resin Coated Copper (RCC)

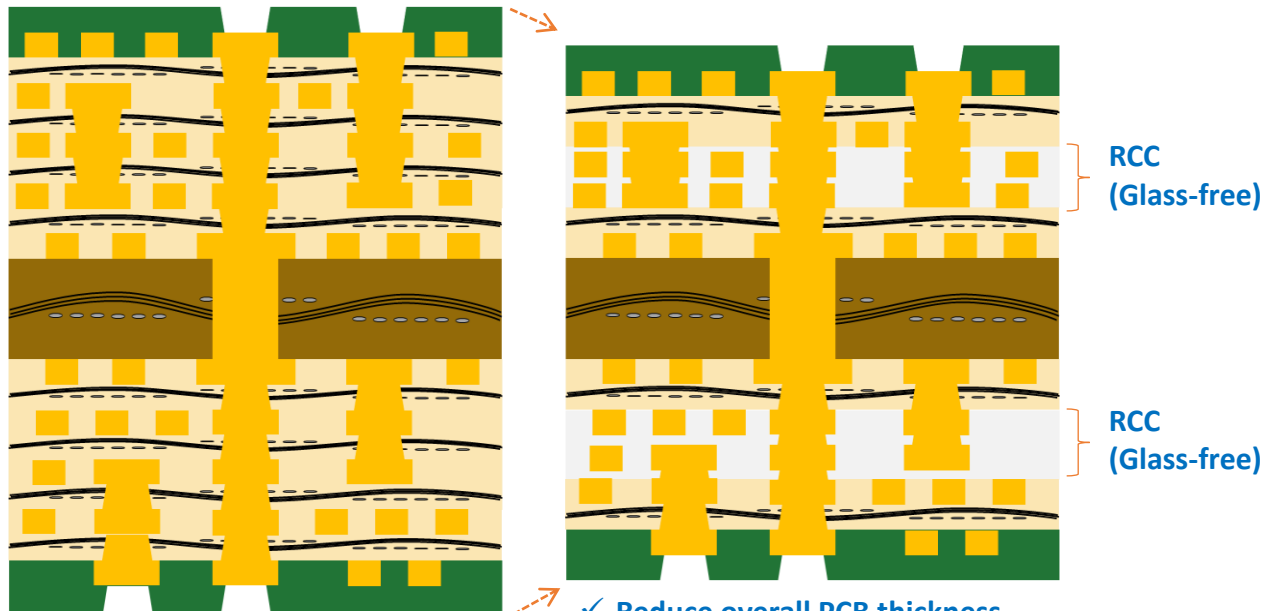
- ✓ Glass-free solution which enables further thickness reduction of dielectric layer while satisfies the needs towards fine-line pattern design and hybrid HDI/Substrate-Like PCB production.



**Dielectric Layer : 10~50um**

※ Available for thickness up to 150um

**Conductors : Copper Foil**



- ✓ Reduce overall PCB thickness
- ✓ Eliminate the fiber weave effect with enhanced reliability of signal transmission

## ITEQ RCC Advantages

### Glass-Free

Reduce thickness of the dielectric layer and overcome minimum thickness constraints (15-20um)

### Reduce Material Costs

Copper foil + glass fiber + resin → Copper foil + resin; replace traditional stacking

### Simplify PCB Lamination process

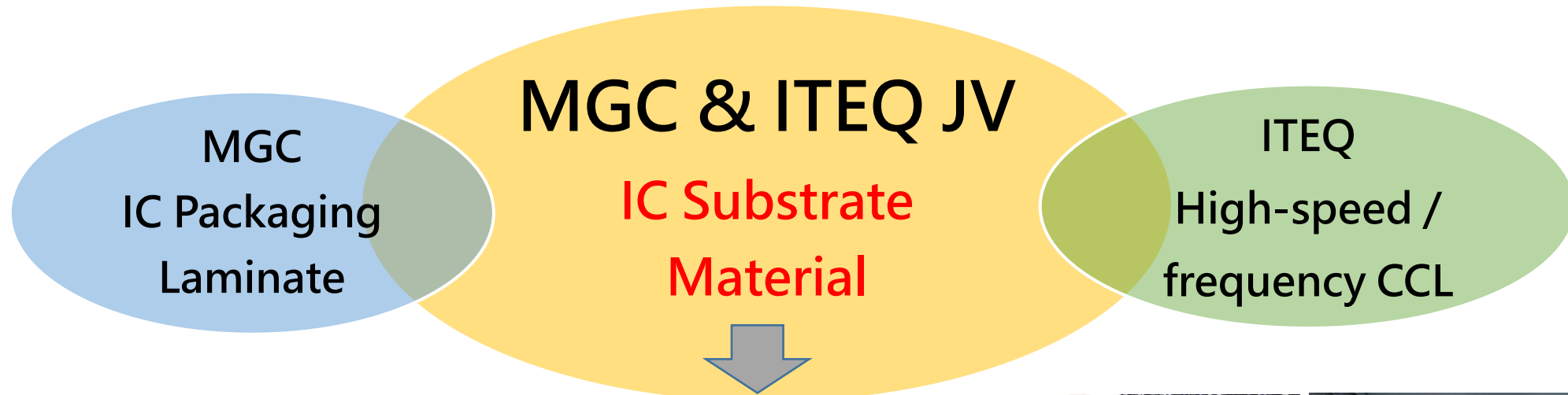
Combine the processes of PP/Copper foil stack-up into one

### Better Dielectric Constant (Dk) and Impedance Control

RCC uses pure glue material enabling stable dielectric constant

### Better Laser Processability

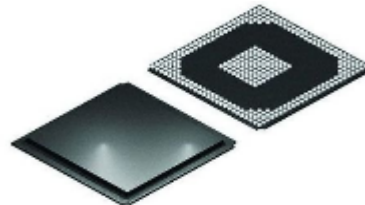
RCC is a glass fiber free material, which is easier to form holes through laser drilling with more stable Via quality



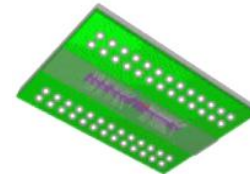
## BT Substrate (ITEQ x MGC JV)



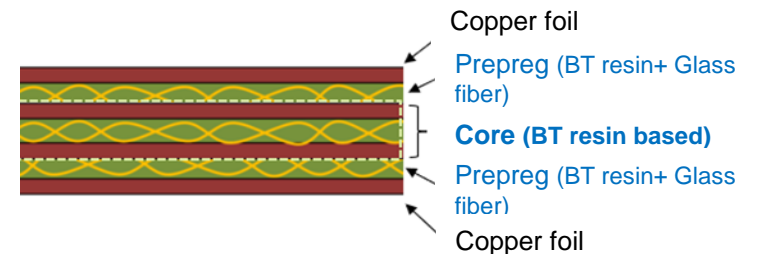
System in a Package (SiP)

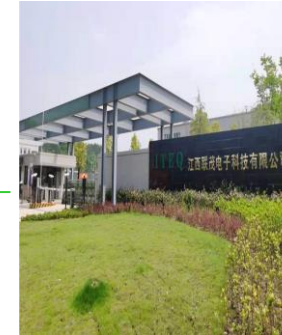
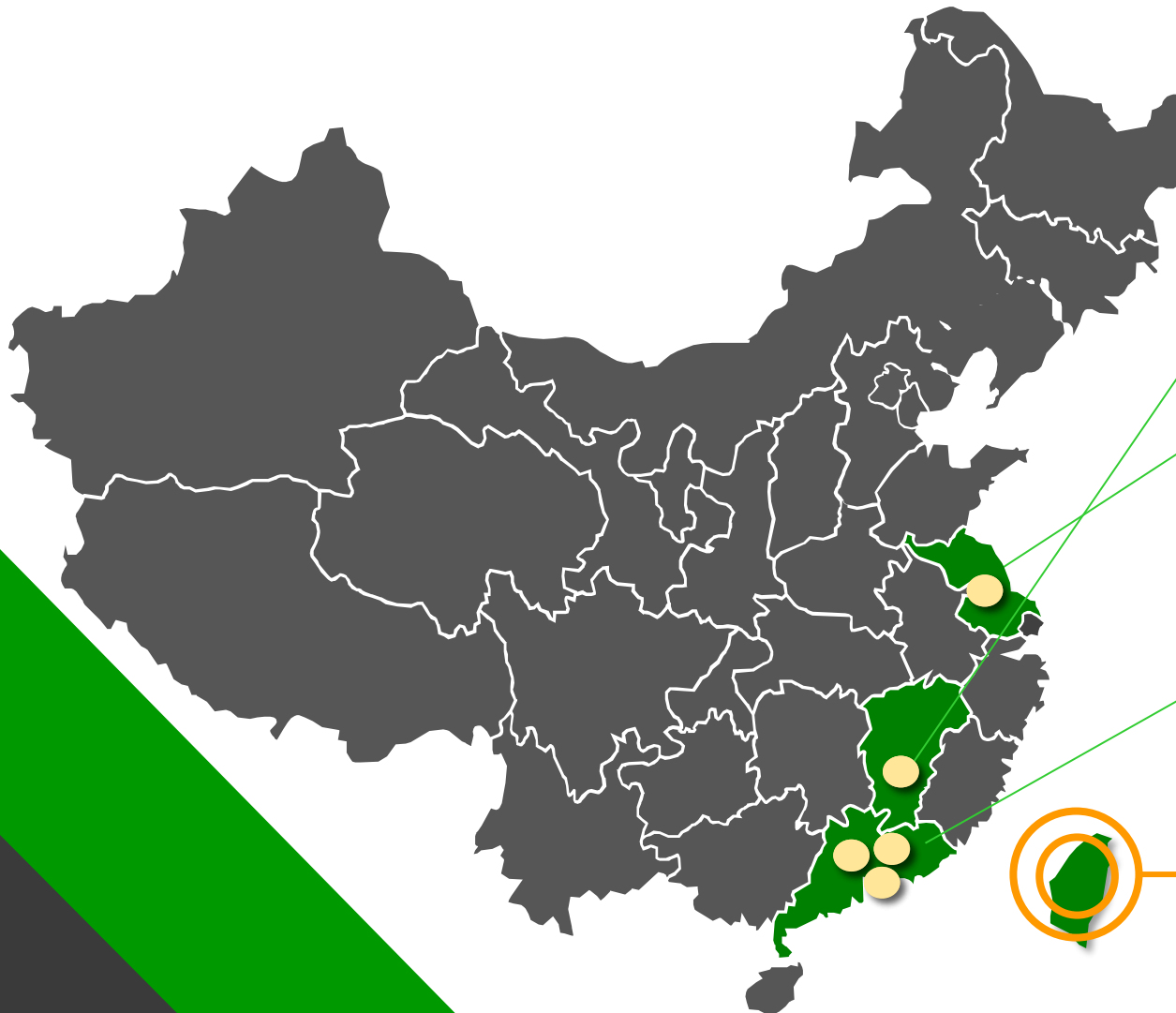


WB-CSP / PBGA



WB-BOC (memory)





**JiangXi Plant**  
(Phase I) - 2020  
Laminate (600K SHT/Month)  
Prepeq (3,500K M/Month)  
(Phase II) - 2021  
Laminate (600K SHT/Month)  
Prepeq (3,500K M/Month)  
(Phase III) – 2022 & 2023  
Laminate (1,200K SHT/Month)  
Prepeq (5,000K M/Month)



**WuXi Plant**  
Laminate (1,650K SHT/Month)  
Prepeq (8,000K M/Month)



**DongGuan Plant**  
Laminate (1,000K SHT/Month)  
Prepeq (4,000K M/Month)



**GuangZhou Plant**  
FCCL(1,450 K M<sup>2</sup>/Month)



**HuangJiang Plant**  
Masslam Service(500K SQFT/Month)



**HsinChu (Headquarters)**  
Laminate(400K SHT/Month)  
Prepeq (2,400K M/Month)

Distributor/Agent: USA, Europe, Israel, Korea, Japan and Singapore



# 2Q22 & 1H22 Financial Results

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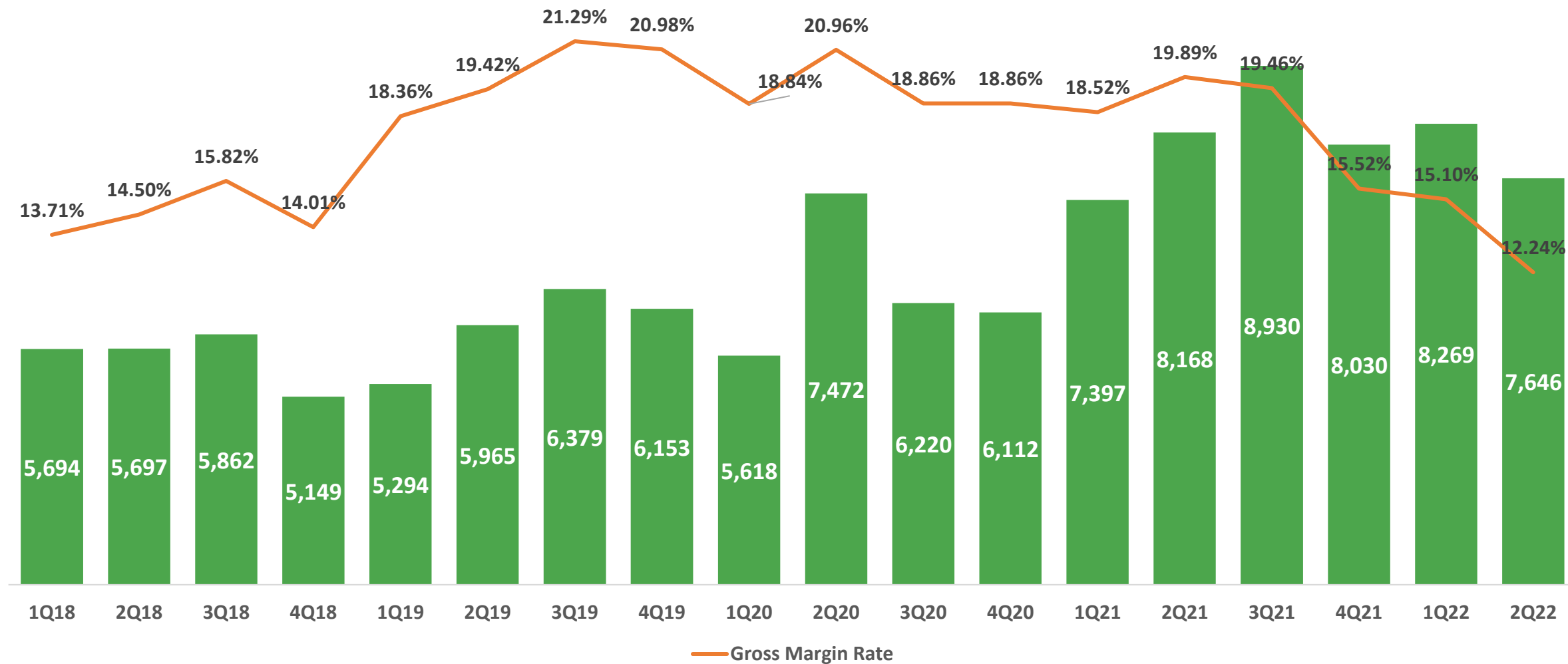


# 2Q22 & 1H22 Income Statement

| NTD \$Million              | 2Q22          | 1Q22          | 2Q21          | QoQ           | YoY           | 1H22          | 1H21          | YoY           |
|----------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Revenue</b>             | <b>7,646</b>  | <b>8,269</b>  | <b>8,168</b>  | <b>-7.5%</b>  | <b>-6.4%</b>  | <b>15,915</b> | <b>15,564</b> | <b>2.3%</b>   |
| Gross Profit               | 936           | 1,249         | 1,625         | -25.1%        | -42.4%        | 2,185         | 2,995         | -27.1%        |
| Operating Expense          | 486           | 605           | 483           | -19.7%        | 0.6%          | 1,091         | 987           | 10.6%         |
| <b>Operating Profit</b>    | <b>450</b>    | <b>644</b>    | <b>1,142</b>  | <b>-30.1%</b> | <b>-60.6%</b> | <b>1,094</b>  | <b>2,009</b>  | <b>-45.6%</b> |
| Non-Op Income / Loss       | 146           | 332           | (19)          |               |               | 478           | (43)          |               |
| Income before Tax          | 596           | 976           | 1,123         | -38.9%        | -46.9%        | 1,572         | 1,965         | -20.0%        |
| Tax Expense                | 161           | 167           | 263           |               |               | 328           | 463           |               |
| Net Income to Parent       | 435           | 809           | 860           | -46.2%        | -49.4%        | 1,244         | 1,502         | -17.2%        |
| <b>EPS(NT\$)</b>           | <b>1.14</b>   | <b>2.11</b>   | <b>2.58</b>   | <b>-46.0%</b> | <b>-55.8%</b> | <b>3.25</b>   | <b>4.51</b>   | <b>-27.9%</b> |
| <b>Key Financial Ratio</b> |               |               |               |               |               |               |               |               |
| <b>Gross Margin</b>        | <b>12.24%</b> | <b>15.10%</b> | <b>19.90%</b> |               |               | <b>13.73%</b> | <b>19.25%</b> |               |
| Operating Expense Ratio    | 6.36%         | 7.32%         | 5.92%         |               |               | 6.86%         | 6.34%         |               |
| <b>Operating Margin</b>    | <b>5.89%</b>  | <b>7.79%</b>  | <b>13.98%</b> |               |               | <b>6.87%</b>  | <b>12.91%</b> |               |
| Effective Tax Rate         | 27.01%        | 17.11%        | 23.42%        |               |               | 20.88%        | 23.56%        |               |
| <b>Net Margin</b>          | <b>5.69%</b>  | <b>9.78%</b>  | <b>10.53%</b> |               |               | <b>7.82%</b>  | <b>9.65%</b>  |               |

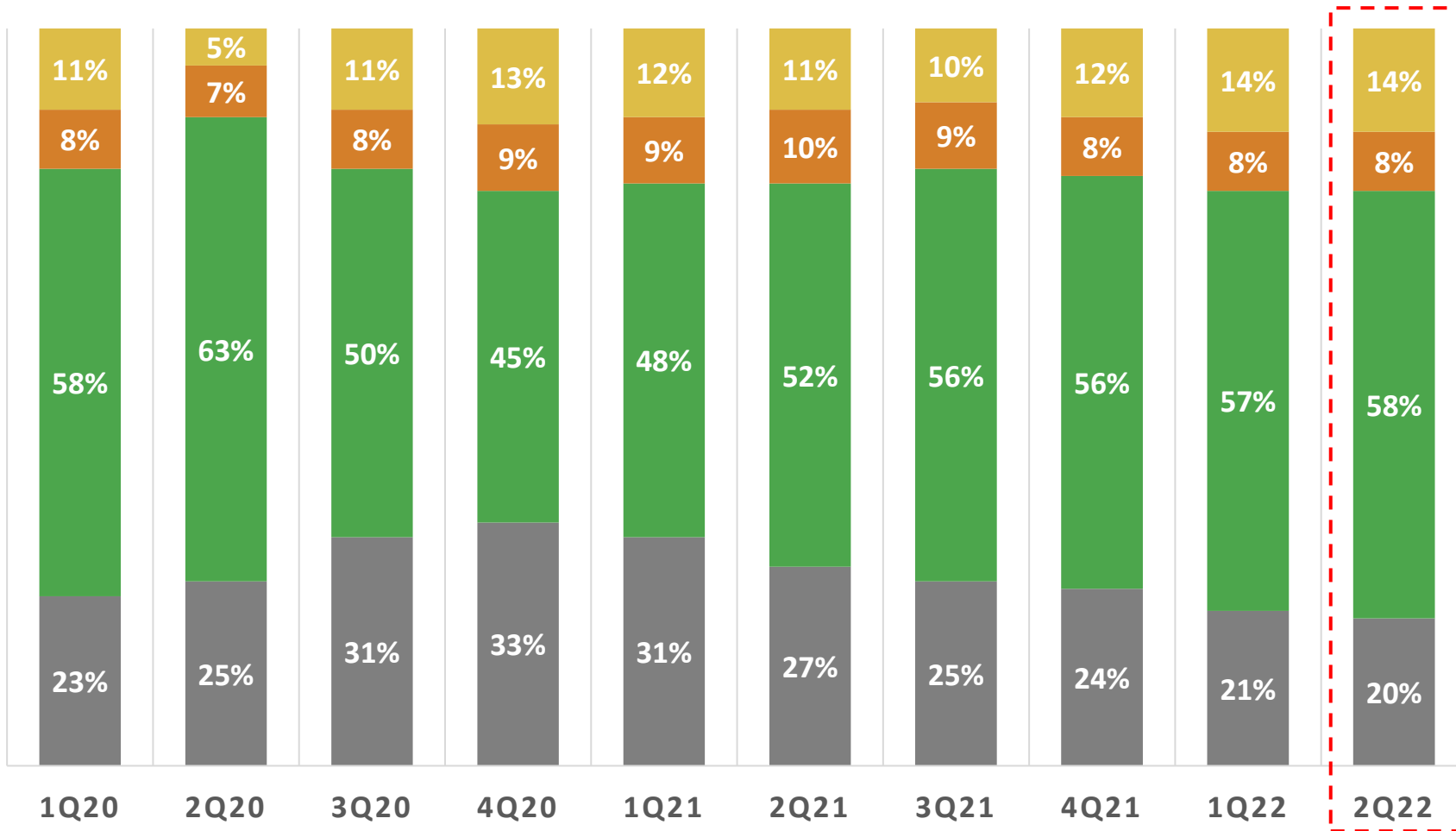
# Revenue & Gross Margin Rate

(Million \$NTD)



# 1Q20~2Q22 Product Mix

■ Consumer Electronics ■ Networking ■ Smartphone ■ Automotive



| 2Q22 Growth rate     | QoQ    | YoY    |
|----------------------|--------|--------|
| Automotive           | -7.5%  | +31.1% |
| Smartphone           | -7.5%  | -31.9% |
| Networking           | -5.9%  | +4.4%  |
| Consumer Electronics | -11.9% | -30.7% |

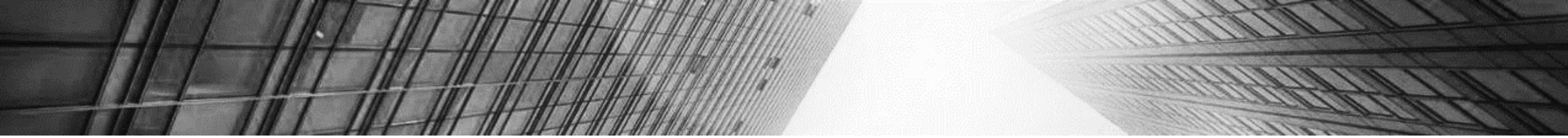
| NTD \$Million              | 2Q22          | 1Q22          | 2Q21          |
|----------------------------|---------------|---------------|---------------|
| <b>Total Assets</b>        | <b>34,043</b> | <b>35,614</b> | <b>32,698</b> |
| Cash                       | 3,873         | 3,711         | 2,749         |
| Marketable Securities      | 4             | 5             | 5             |
| NR / AR                    | 13,799        | 14,377        | 13,403        |
| Inventories                | 3,872         | 4,822         | 4,161         |
| Fixed Assets               | 10,276        | 10,122        | 9,569         |
| <b>Total Liabilities</b>   | <b>13,092</b> | <b>14,830</b> | <b>17,960</b> |
| Short-term Debt            | 2,051         | 2,494         | 3,144         |
| NP / AP                    | 5,686         | 6,644         | 7,661         |
| Long-term Debt             |               | -             | 1,370         |
| <b>Total Equity</b>        | <b>20,951</b> | <b>20,784</b> | <b>14,738</b> |
| <b>Key Financial Index</b> |               |               |               |
| Days Sales Outstanding     | 151           | 151           | 159           |
| Days Sales of Inventory    | 64            | 69            | 64            |
| Days Payable Outstanding   | 84            | 91            | 102           |
| ROE (%)                    | 13.60         | 15.73         | 20.80         |
| ROA (%)                    | 8.42          | 9.40          | 10.23         |
| Debt ratio (%)             | 38.46         | 41.64         | 54.93         |

| Year | EPS(NT\$) | Dividend(NT\$) | Cash Dividend(NT\$) | Pay-out Ratio(%) |
|------|-----------|----------------|---------------------|------------------|
| 2015 | 1.92      | 1.6            | 1.6                 | 83%              |
| 2016 | 3.13      | 2.5            | 2.5                 | 80%              |
| 2017 | 4.11      | 3.1            | 3.1                 | 75%              |
| 2018 | 5.86      | 3.8            | 3.8                 | 65%              |
| 2019 | 8.13      | 5.0            | 5.0                 | 62%              |
| 2020 | 8.19      | 5.0            | 5.0                 | 61%              |
| 2021 | 9.00      | 5.0            | 5.0                 | 56%              |

\*New shares issuance of 30 million common shares concluded on March 31<sup>st</sup> 2020

\*\*New shares issuance of 50 million common shares concluded on September 2<sup>nd</sup> 2021; current total outstanding common share: 383 million

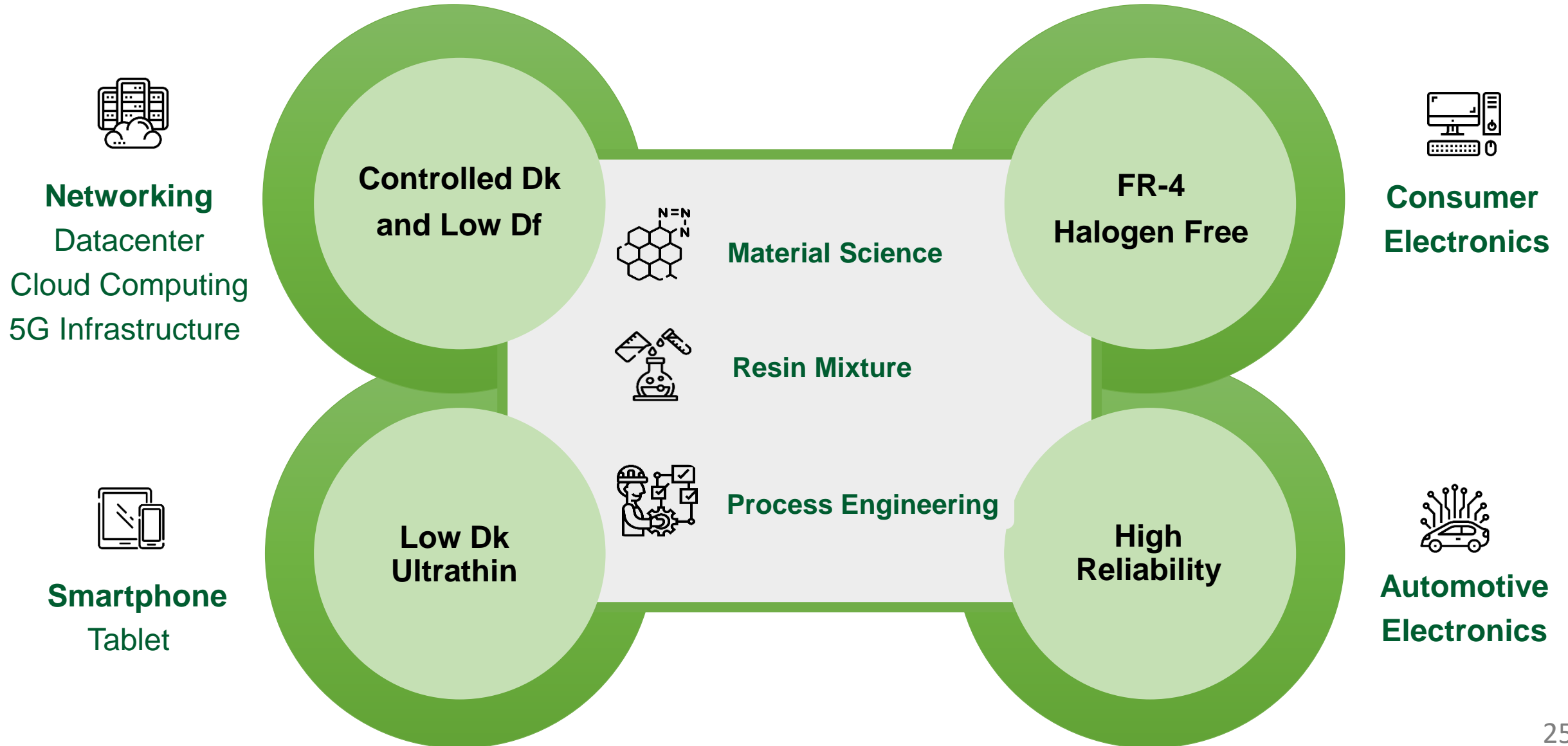


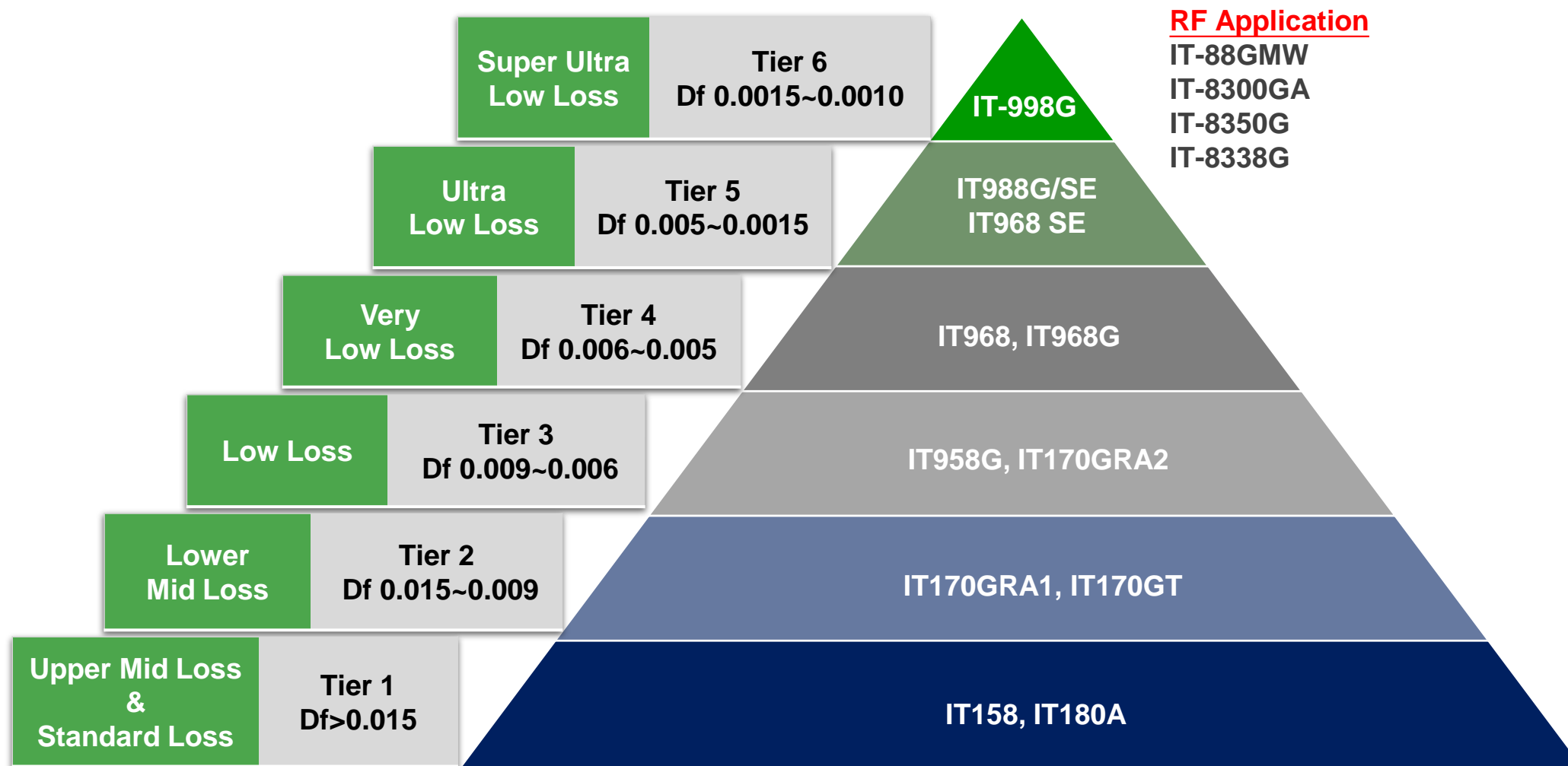


# Appendix

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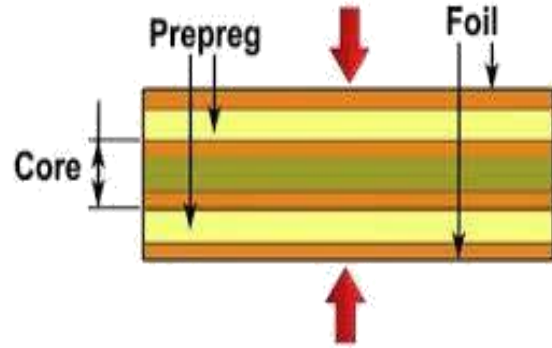
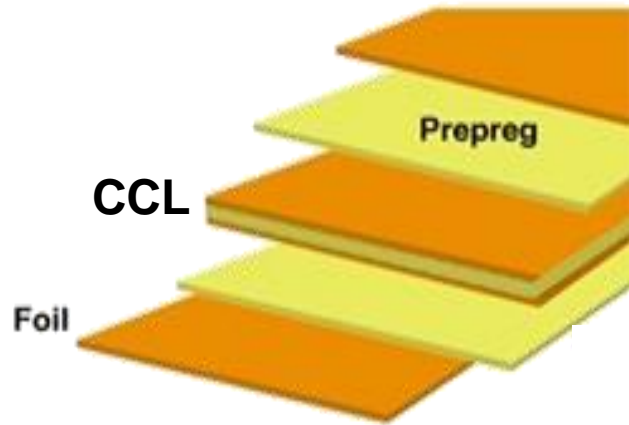
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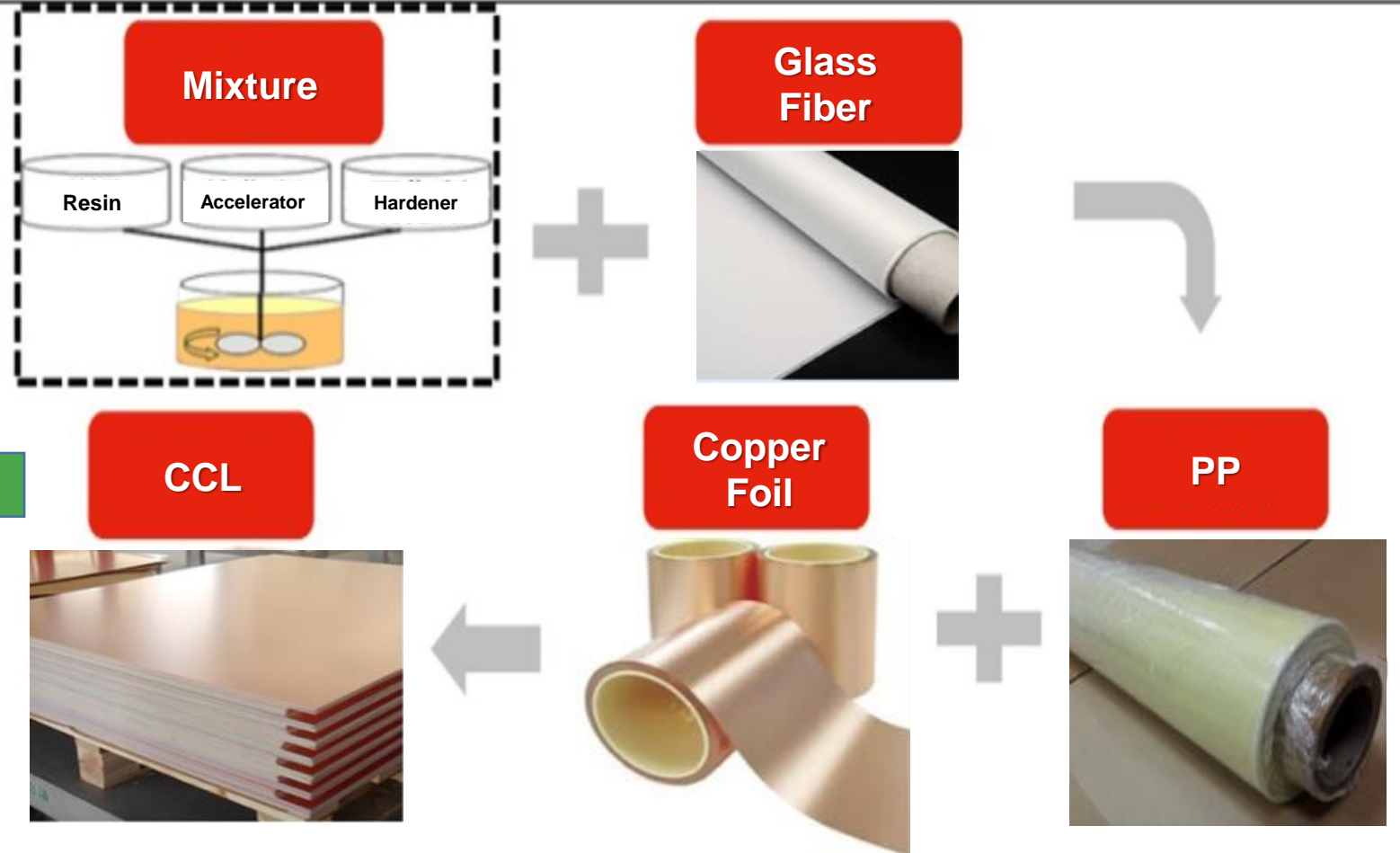


- The need for 5G commercialization and server upgrade to expedite the growth of high speed / frequency material demand
- ITEQ's market share in high speed / frequency material to uplift robustly

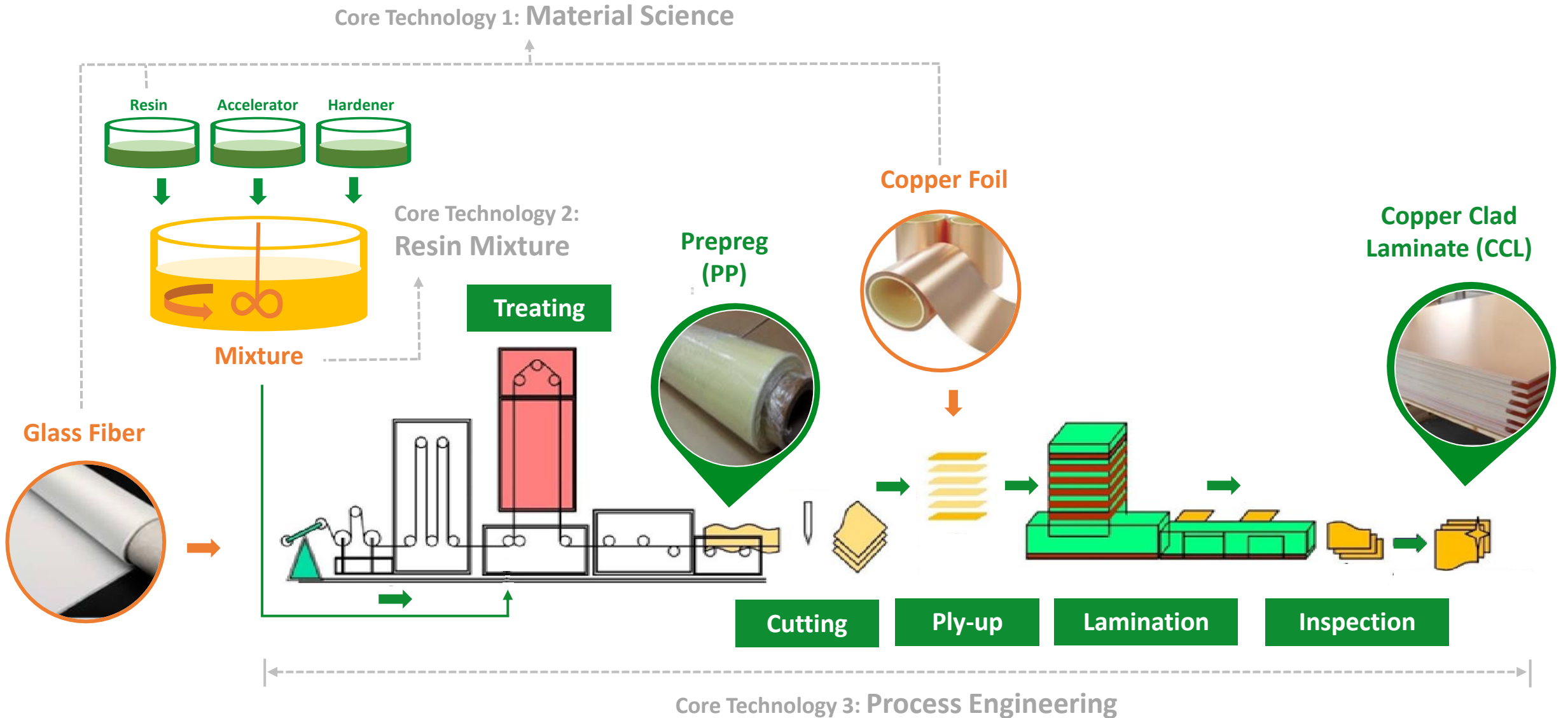
## CCL/PP



## CCL Manufacturing Process



# CCL & PP Manufacturing Flow





# Thank you

Question and Comment